M E M O R A N D U M

DATE: June 16, 2000

TO: INYO COUNTY BOARD OF SUPERVISORS
INYO COUNTY SHERIFF'S DEPT
INYO COUNTY ENVIRONMENTAL HEALTH DEPT
SOUTHEAST AREA CITIZEN ADVISORY COMMITTEE
CALIFORNIA ENERGY COMMISSION
CALIFORNIA HIGHWAY PATROL - BISHOP
CALTRANS DISTRICTS 8 AND 9
SUPERINTENDENT, DEATH VALLEY NATIONAL PARK

FROM: Andrew Remus, Project Coordinator
Inyo County Yucca Mtn Repository Assessment Office

RE: **Report on January - March, 2000 Low Level Nuclear Waste Shipments on State Route 127**

The following report describes the transportation of low-level nuclear waste on State Route 127 during the time period January 1 - March 30, 2000 as reported by the U.S. Department of Energy's Environmental Management Program.

Background

The U.S. Department of Energy (DOE) administers a program to clean up radioactively contaminated facilities across the nation. Most of these sites, private and public, served as components of the nuclear weapons research, production and testing complex that began development in the 1940's. The remediation of contaminated and typically decommissioned facilities involves the extraction, consolidation, and packaging of huge volumes of contaminated soil, water and debris, and the dismantling of many buildings and pieces of equipment. The clean up process itself generates large volumes of contaminated clothing, gloves, boots and other equipment. Some remediation projects require on-site disposal of contaminated materials, while other projects call for the transport of low-level nuclear waste (LLW) to the Nevada Test Site (NTS) for shallow land burial. The DOE report on low-level waste shipments (Attachment 1) summarizes shipments to NTS during the first three months of 2000.

DOE has come under criticism from the City of Las Vegas and Nevada State officials for allowing the transportation of LLW over the Hoover Dam and through the "Spaghetti Bowl" in downtown Las Vegas. As a result, DOE has encouraged LLW shippers to avoid both the Dam and Las Vegas by using rural northern Nevada routes during the summer, (when the weather is good), and the southern approaches to NTS (California State Route 127 and Nevada Route 160) during the winter, when northern routes are less reliable. Although DOE does not have the authority to dictate route choice to shipping companies transporting LLW, DOE has agreed to encourage shippers to conform to a basic North in Summer/South in Winter pattern, and furthermore, to attempt to split shipments on the southern approach evenly between California State Route 127 and Nevada Route 160. Neither California or Inyo County nor Nevada or Nye County have officially endorsed this approach to balancing the risks of LLW shipments to NTS.

Summary

This section summarizes recent LLW shipping to NTS. Keep in mind that DOE did not implement its program to encourage the previously explained shipment/route distribution until the beginning of 2000.

The **October - December 1999 DOE report** on LLW shipments to NTS indicated the following:

Total Shipments to NTS	82*
Shipments on SR 127	53 (63% of all shipments)
Shipments on NV 160	5**
Shipments through Las Vegas	25 (30% of all shipments)
Shipments on Northern Routes	4

71%

*excludes 1 on-site transfer and 1 unspecified shipment from Fernald

**these shipments also traveled on SR127, with the shipper using both NR160 and SR127 during each shipment via California State Route SR178 between Pahrump, NV and Shoshone, CA

The **January - March 2000 DOE report** on LLW shipments to NTS indicated the following:

Total Shipments to NTS	112
Shipments on SR 127	32 (29% of all shipments)
Shipments on NV 160	26 (23% of all shipments)
Shipments through Las Vegas	53 (47% of all shipments)
Shipments on Northern Routes	1

Based on the most recent DOE report, we can see that, as was proposed by DOE, the great majority of winter shipments to NTS utilized southern approaches to the Nevada Test Site. It will be interesting to see if this trend reverses during the summer shipping period (April -September). Also of note, the majority of southern shipments actually *did* go through Las Vegas, with the remainder split roughly between Inyo and Nye Counties. Of the 85 shipments which utilized SR127 during the period October, 1999 to March 2000, 63 of these (74%) *originated in California*.

Detail on Generator Sites

The following section provides a brief profile of each of the low-level waste generator sites reported as having shipped **low-level waste** to NTS during the six-month reporting period. These sites may include other waste types that are either being disposed of on site or transported to a disposal facility other than NTS. As a reminder, low-level nuclear waste is:

"...any radioactive waste that...[is not spent nuclear fuel, high-level waste, transuranic waste, mixed-waste or uranium-mill tailings]. It is produced by virtually every process involving radioactive materials. Low level waste spans a wide range of characteristics, but most of it contains small amounts of radioactivity in large volumes of material..."

Boeing-Rocketdyne (Energy Technology Engineering Center)	
General Location:	Los Angeles, California
Nature of Facility:	Nuclear reactor development and testing.
Type of Waste Generated:	Low Level Nuclear Waste and Low Level Mixed Waste (combinations of radioactive and other wastes classified as "hazardous waste"), Transuranic Waste and High-Level Nuclear Waste.
Estimated Date for Completion of Site Remediation: 2010	

FERMCO (Fernald Environmental Management Project)	
General Location:	Cincinnati, Ohio
Nature of Facility:	Decommissioned nuclear material plant utilized to produce uranium metal and uranium compounds for use at other DOE facilities.
Type of Waste Generated:	Low Level Nuclear Waste and Low Level Mixed Waste (combinations of radioactive and other wastes classified as "hazardous waste"). Total low-level and low-level mixed waste volume at the site is approximately 2,600 cubic meters.
Estimated Date for Completion of Site Remediation: 2005	

General Atomics	
General Location:	San Diego, California
Nature of Facility:	Research centered on nuclear reactor testing.
Type of Waste Generated:	Low Level Nuclear Waste and Low Level Mixed Waste (combinations of radioactive and other wastes classified as "hazardous waste") and Hazardous Waste.
Estimated Date for Completion of Site Remediation: 2000	

Lawrence Livermore National Lab	
General Location:	Livermore, California
Nature of Facility:	Facility utilized for nuclear weapons and nuclear fusion research.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, Hazardous Waste and Transuranic Waste.
Estimated Date for Completion of Site Remediation: 2006	

Mound (Miamisburg Environmental Management Project)	
General Location:	Dayton, Ohio
Nature of Facility:	Facility utilized for nuclear materials research and manufacture of nuclear weapons components.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, and Transuranic Waste.
Estimated Date for Completion of Site Remediation: 2005	

Pantex	
General Location:	Amarillo, Texas
Nature of Facility:	Facility utilized to assemble, disassemble, evaluate and maintain nuclear weapons.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, Hazardous Waste, and a small amount of Transuranic Waste. Total waste volume for Low-Level Waste and Low-Level Mixed Waste is approximately 3,390 cubic meters.
Estimated Date for Completion of Site Remediation: 2000	

Rocky Flats	
General Location:	Denver, Colorado
Nature of Facility:	Facility utilized for production of nuclear weapons components from plutonium and other metals.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, and Transuranic Waste. Total waste volume for Low-Level Waste and Low-Level Mixed Waste is approximately 62,000 cubic meters.
Estimated Date for Completion of Site Remediation: 2006	

Sandia National Lab (CA)	
General Location:	Livermore, California
Nature of Facility:	Facility utilized for nuclear weapons development and engineering.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, and Hazardous Waste.
Estimated Date for Completion of Site Remediation: 2006	

Sandia National Lab (NM)	
General Location:	Albuquerque, New Mexico
Nature of Facility:	Facility utilized for developing, engineering and testing non-nuclear components of nuclear weapons.
Type of Waste Generated:	Low Level Nuclear Waste, Low Level Mixed Waste, Transuranic Waste and Hazardous Waste. Total waste volume for Low-Level Waste and Low-Level Mixed Waste is approximately 2,600 cubic meters.
Estimated Date for Completion of Site Remediation: 2001	

Attachment: DOE Second Quarter Report on Low-Level Waste Shipments to NTS

Low-Level Radioactive Waste Shipments to the Nevada Test Site
Second Quarter Report, FY 2000

GENERATOR	VOLUME (ft^3)	SHIPMENTS	ROUTES
FERMCO (OH)	24,326	12	Southern Route (I-15, SR CA-127, SR NV-373, 160, US-95)
General Atomics (CA)	11,362	11	Southern Route (I-15, SR CA-127, SR NV-373, US-95)
Lawrence Livermore National Lab (CA)	11,148	4	Southern Route (580, 205, 5, 46, 99, 58, I-15, SR CA- 127, SR NV-373, US-95)
		4	Southern Route (US-40, US-93, I-515, US-95) Over Hoover Dam and thru Las Vegas Spaghetti Bowl*
		1	Southern Route (I-5, I-15, SR CA-127, SR CA-178, SR NV-372, SR-160, US-95)
Mound (OH)	16,220	3	Southern Route (I-40, US-95, SR NV-164, I-15, SR CA-127, SR NV-373, US-95)
		2	Southern Route (I-40, US-95, SR NV-164, I-15, SR NV-160, US-95)
		3	Southern Route (I-40, US-93, US-95) over Hoover Dam and thru Las Vegas Spaghetti Bowl*
Pantex (TX)	9,970	20	(I-40, 86, 163, US-95, I-515, NV-146, I-15, NV-160,US-95)
Boeing-Rocketdyne (CA)	620	1	Southern Route (I-15, SR CA-127, SR NV-373, US-95)
Rocky Flats (CO)	99,044	8	Southern Route (I-40, US-93, US-95) over Hoover Dam and thru Las Vegas Spaghetti Bowl*
		31	Las Vegas Route (I-15, US-95)
		7	Las Vegas Route (I-15, Cheyenne/Craig, US-95 (Avoids Las Vegas Spaghetti Bowl)
Sandia National Lab (CA)	515	1	Northern California Route (I-580, I-80, US-95)
Sandia National Lab (NM)	3,355	4	(I-40, US-95, I-515, SR NV-146, I-15, 160, US-95)
TOTALS	176560	112	

NOTE: The routes described above are the core routes used by the motor carriers that haul low-level waste to the Nevada Test Site. On a daily basis, variations of these routes are used by the motor carriers. Additional shipments of waste are received from on-site generators. * Waste treated at GTS Duratec in Tennessee.